

0185656.ST25.txt
SEQUENCE LISTING

<110> Hoshino, Tatsuo
Shinjoh, Masako
<120> Process For Producing L-Abscorbic Acid
<130> C038435/0185656
<160> 2
<170> PatentIn version 3.3
<210> 1
<211> 1740
<212> DNA
<213> Gluconobacter oxydans

<400> 1
atgaacccca caacgctgct tcgcaccaggc gcggccgtgc tattgcttac cgcccccggcc 60
gcattcgcgc aggttaacccc gattaccgat gaactgctgg cgaacccggcc cgctggtaaa 120
tggattaact acggccgcaa ccaagaaaac tatcgccact cgcccccgtac ccagatcact 180
gccgacaacg ttggtcagtt gcaactggtc tgggccccggc ggatggaggc gggggccgta 240
caggtcacgc cgatgatcca ttagtggcgtg atgtatctgg caaacccggc tgatgtgatc 300
caggcgctgg atgcgcaaac aggcatctg atctgggaac accggccgcca actgcccggcc 360
gtcgccacgc taaacgccccca aggccgaccgc aagcgccggc tcgccccctta cggcacgagc 420
ctctatttca gctcatggga caaccatctg atcgctggc tggatggagac gggccagggtc 480
gtattcgatg tcgaacgtgg atcggcgaa gacggcttga ccagtaacac cacggggccg 540
attgtcgcca atggcgatcat cgtcgcgggt tccacctgccc aatattcgcc ctatggatgc 600
tttatctcggtt ggcacgatttc cgccgacgggt gaggagctgt ggcgcacca ctttatcccg 660
cagccggcg aagagggtga cgagacttgg ggcaatgatt tcgaggcgcc ctggatgacc 720
ggcgtctggg gtcagatcac ctatgatccc gtgacgaacc ttgtgttcta tggctcgacc 780
ggcgtgggccc cagcgtccga aacccagcgc ggcacgccccgg gcggcacgct gtatggcacc 840
aacacccgct ttgcggtgcg tcccgacacg ggcgagatttgc tctggcgtca ccagaccctg 900
ccgcgcgaca actgggacca agaatgcacg ttgcgatgta tggtcgcca cgtcgatgtg 960
caaccctcggtt ccgagatggc gggctcgcc gccatcaacc ccaatgcggc gacggggcgg 1020
cgccgtgtgc tgacgggtgc gccttgcaag accggcacga tgtggtcgtt tgatgcggcc 1080
tcggggcgaat tcctgtgggc gcgtgataacc aactacacca atatgatgc ctcgatcgac 1140
gagaccggcc ttgtgacgggt gaacgaggat gcggtgctga aagagctgga cgttgaatat 1200
gacgtctgccc cgaccccttgc ggggtggggcgc gactggcgtt cagccgact gaacccggac 1260
accggcattt acttcttgcc gctgaacaat gcctgctacg atattatggc cgttgatcaa 1320

0185656.ST25.txt

gagtttagcg cgctcgacgt ctataacacc agcgcgaccc caaaactcgc gccgggcctt 1380
gaaaatatgg gcccgcattcgat cgcgattgat atcagcaccg ggcgcaccc ttgttcggcg 1440
gagcgccctg cggcgaacta ctcgcccgtt ttgtcgacgg caggcggtgt ggtgttcaac 1500
ggcgggaccg accgctattt ccgtgccctc agccaggaaa ccggcgagac tttgtggcag 1560
gcccgtcttg cgacggtcgc gacggggcag gcgatcagct acgagttgga cggcgtgcaa 1620
tatatcgcca tcggtgccgg cggtctgacc tatggcacgc aattgaacgc gccgctggcc 1680
gaggcaatcg attcgaccc ggtcggtaat gcgatctatg tctttgcact gccgcagtaa 1740

<210> 2
<211> 579
<212> PRT
<213> Gluconobacter oxydans

<400> 2

Met Asn Pro Thr Thr Leu Leu Arg Thr Ser Ala Ala Val Leu Leu Leu
1 5 10 15

Thr Ala Pro Ala Ala Phe Ala Gln Val Thr Pro Ile Thr Asp Glu Leu
20 25 30

Leu Ala Asn Pro Pro Ala Gly Glu Trp Ile Asn Tyr Gly Arg Asn Gln
35 40 45

Glu Asn Tyr Arg His Ser Pro Leu Thr Gln Ile Thr Ala Asp Asn Val
50 55 60

Gly Gln Leu Gln Leu Val Trp Ala Arg Gly Met Glu Ala Gly Ala Val
65 70 75 80

Gln Val Thr Pro Met Ile His Asp Gly Val Met Tyr Leu Ala Asn Pro
85 90 95

Gly Asp Val Ile Gln Ala Leu Asp Ala Gln Thr Gly Asp Leu Ile Trp
100 105 110

Glu His Arg Arg Gln Leu Pro Ala Val Ala Thr Leu Asn Ala Gln Gly
115 120 125

Asp Arg Lys Arg Gly Val Ala Leu Tyr Gly Thr Ser Leu Tyr Phe Ser
130 135 140

Ser Trp Asp Asn His Leu Ile Ala Leu Asp Met Glu Thr Gly Gln Val
145 150 155 160

Val Phe Asp Val Glu Arg Gly Ser Gly Glu Asp Gly Leu Thr Ser Asn
Page 2

0185656.ST25.txt

165

170

175

Thr Thr Gly Pro Ile Val Ala Asn Gly Val Ile Val Ala Gly Ser Thr
 180 185 190

Cys Gln Tyr Ser Pro Tyr Gly Cys Phe Ile Ser Gly His Asp Ser Ala
 195 200 205

Thr Gly Glu Glu Leu Trp Arg Asn His Phe Ile Pro Gln Pro Gly Glu
 210 215 220

Glu Gly Asp Glu Thr Trp Gly Asn Asp Phe Glu Ala Arg Trp Met Thr
 225 230 235 240

Gly Val Trp Gly Gln Ile Thr Tyr Asp Pro Val Thr Asn Leu Val Phe
 245 250 255

Tyr Gly Ser Thr Gly Val Gly Pro Ala Ser Glu Thr Gln Arg Gly Thr
 260 265 270

Pro Gly Gly Thr Leu Tyr Gly Thr Asn Thr Arg Phe Ala Val Arg Pro
 275 280 285

Asp Thr Gly Glu Ile Val Trp Arg His Gln Thr Leu Pro Arg Asp Asn
 290 295 300

Trp Asp Gln Glu Cys Thr Phe Glu Met Met Val Ala Asn Val Asp Val
 305 310 315 320

Gln Pro Ser Ala Glu Met Glu Gly Leu Arg Ala Ile Asn Pro Asn Ala
 325 330 335

Ala Thr Gly Glu Arg Arg Val Leu Thr Gly Ala Pro Cys Lys Thr Gly
 340 345 350

Thr Met Trp Ser Phe Asp Ala Ala Ser Gly Glu Phe Leu Trp Ala Arg
 355 360 365

Asp Thr Asn Tyr Thr Asn Met Ile Ala Ser Ile Asp Glu Thr Gly Leu
 370 375 380

Val Thr Val Asn Glu Asp Ala Val Leu Lys Glu Leu Asp Val Glu Tyr
 385 390 395 400

Asp Val Cys Pro Thr Phe Leu Gly Gly Arg Asp Trp Ser Ser Ala Ala
 405 410 415

0185656.ST25.txt

Leu Asn Pro Asp Thr Gly Ile Tyr Phe Leu Pro Leu Asn Asn Ala Cys
420 425 430

Tyr Asp Ile Met Ala Val Asp Gln Glu Phe Ser Ala Leu Asp Val Tyr
435 440 445

Asn Thr Ser Ala Thr Ala Lys Leu Ala Pro Gly Phe Glu Asn Met Gly
450 455 460

Arg Ile Asp Ala Ile Asp Ile Ser Thr Gly Arg Thr Leu Trp Ser Ala
465 470 475 480

Glu Arg Pro Ala Ala Asn Tyr Ser Pro Val Leu Ser Thr Ala Gly Gly
485 490 495

Val Val Phe Asn Gly Gly Thr Asp Arg Tyr Phe Arg Ala Leu Ser Gln
500 505 510

Glu Thr Gly Glu Thr Leu Trp Gln Ala Arg Leu Ala Thr Val Ala Thr
515 520 525

Gly Gln Ala Ile Ser Tyr Glu Leu Asp Gly Val Gln Tyr Ile Ala Ile
530 535 540

Gly Ala Gly Gly Leu Thr Tyr Gly Thr Gln Leu Asn Ala Pro Leu Ala
545 550 555 560

^

Glu Ala Ile Asp Ser Thr Ser Val Gly Asn Ala Ile Tyr Val Phe Ala
565 570 575

Leu Pro Gln